

1809 #6

Stimulating and nutritive effects  
of Lychee.

Thos. Harris

he is about to embark.

By light I mean that subtle fluid emitted from luminous bodies, and which is possessed of very peculiar and important properties.

Whether contemplated in a physical or chemical point of view, light must be pronounced one of the choicest gifts of heaven.—It is not only one of the principle stimuli of life, but as the medium of vision, affords us innumerable rapturous perceptions.

Few subjects merit an attention more than this circumambient ethereal fluid, by means of which the beauty and glory of creation are laid open to our view.

Even the illiterate and unobserving

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Do you understand  
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savage acknowledges the divine influence of light, by reverencing and offering oblations to some one or other of the heavenly luminaries.

It is remarkable that man was not brought into existence till the luminaries were found. - He awoke surrounded by light, and soon became sensible of this congenial stimulus to his nature.

The stimulating properties of light have long since, and are now generally admitted; but for its application to the practice of medicine the world is indebted to the illustrious Professor of the institutes and practice of medicine.

For a knowledge of its nutritive qualities, or at least for its

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clarification among the articles of  
nutrition, the honor is due the in-  
genious Doctor Barton.

Notwithstanding the  
very essential use of light, in impa-  
ting vigor and brightness to the  
plant after vegetation has com-  
menced; yet we find that if the seed  
be barely exposed to the powerful  
stimulus of the solar rays, germina-  
tion is prevented.

Were this luminous sub-  
stance intercepted, vegetables would  
sicken and exhibit a lifeless and pa-  
lid appearance.

The beautiful, variegated, &c.  
of most vegetables depend on the presence  
of this fluid. - The fungi it is true,  
are an exception. - Their colours &c.

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growth are independent of light, as  
hence the Gardener bleaches his celery  
and other plants which partake of  
its nature.

Againably to chapter, vegetab.  
are not only indebted to light for  
their colour, but likewise for their  
taste, smell, combustibility, maturity  
and resinous principle: Hence Ara-  
matic substances, resins, volatile oils,  
and those colouring matter, of some  
value for their liveliness and body,  
are peculiar to southern climates,  
where light is more pure, constant  
and intense.

The medicinal qualities  
of plants that grew in the light are  
much more active, than those which  
grew in the shade. — Hence southern

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countries yield the most active and valuable medicines.

It is a fact well known to the inhabitants of the western part of Pennsylvania, that the juice which the Palm tree affords during the day, yields much more sugar, than that which <sup>flows</sup> thro' the night.

Vegetables discover a partiality for light by the direction of their limbs and flowers.— In cellars and hot-houses where light is admitted in one direction only, we observe them inclining towards the place of its introduction, as if to embrace their beneficent friend, and hence is manifested the congeniality of this fluid to plants of every description, and its necessity to their prosperity and

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growth. — They too, invariably enclosed, or always seen pushing their limbs into the open air, and extending their growth most rapidly wherever the light is poured in upon them in the greatest profusion.

Chaptal ascribes more to the influence of light than can justly be attributed to it. — He says "A very astonishing property of light on the vegetable kingdom is, they emit vital air. — This phenomenon professor Woodhouse has illustrated <sup>with ingenuity</sup> and satisfactorily, by means of a series of experiments. — From these he has proved that oxygen gas is not eliminated from the plant, but dependent on a decomposition of

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carbonic acid, present effected by  
the stimulus of light. - The plant  
indeed appears to devour, and to be  
nourished by the carbonic, whilst the  
water air is disengaged. - For he  
could in no instance procure  
the smallest quantity of oxygen  
gas, unless there were carbonic  
acid, present in the water in  
which the vegetables were placed.

Light has a very peculiar  
effect on another class of anima-  
ted beings. - We observe those ani-  
mals which are secluded from  
light, have a pallid whitish color  
such as frogs, worms, &c which are  
in the earth or in trees. - The  
loss of color is also observable in

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the arctic animals during the long  
nights in the countries near the poles.

The nocturnal birds and flying insects of the night are distinguishable from those of the day - as there want not differences of colour.

Doctor Gmelin has observed, that animals which conceal themselves for the greatest part of the year, in subterraneous dwellings, lose their colour and become white and that mice kept in a cage, in a dark room, have produced white offspring. - The difference is equally manifest between those animals of the north and of the south. Hence I would infer that the difference of colour in the human species is entirely dependent on

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climate in which they live, and no  
so any specific difference in the  
original stamens. — Negro children  
who continually white at birth, be-  
come black when exposed to the  
solar rays, and I am induced to  
believe they would continue so  
even if practicable for them to  
live without being exposed to  
the light.

There is a story narrated by  
fishermen, on which I believe on  
more but implicit reliance,  
that fish are much fatter during  
the full moon, than at any  
other period. — No man takes, he  
here there is observed in the hu-  
man species. — The health, ruddy  
complexion and athletic constituto-

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of those persons who are daily exposed to the sun's influence, giving strong and indisputable evidence of the alimentary and invigorating properties:— W. Stewart the famous Presbyterian traveller informed Doctor Rush that he, <sup>had</sup> several months in Lapland &c. 1769. during most of which time the sun was not absent.— And that he enjoyed an unusual degree of health and spirits which he justly attributed to the invigorating influence of the sun's light.

Agreeably to one of the laws of serration when two stimuli of unequal force are applied to a system at the same time the more

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undominal. When a bright  
light is no gentle stimulant,  
it is one of the invincible vires  
which contracts and prevents  
very powerful stimulæ of no  
value exhalations from affecting  
the system during the day --  
hence two kinds of the disease  
which attack the human body  
are found to commence in the  
night, whilst the system suff-  
fers privation.

Patients frequently  
night in wakefulness in fevers,  
the system is below the sleeping  
and feeding, but sink into a return  
sleep at the recurrence of the  
new light, the system being then

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raised to that necessary point at  
sleep takes place. - Hence the ne-  
cessity of giving a greater quantity of  
water, in those diseases in which  
stomach-irritants are indicated, dur-  
ing the night than in the day. -  
There also the proximity of dur-  
ing the rooms of patients whose  
fevers are inflammatory.

I conceive it as necessary  
for the physician to regulate the  
quantity of light admitted  
to his patients, by the state of the  
temper and nature of the complaint  
as the temperature and purity  
of the air in his room.

Light acts, particularly on  
organs of sight: when too intense

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it induces ophthalmomies. - I would  
therefore, and you should never make  
yourself weary, let him have the same  
cured for his ophthalmomies, as he  
does not now, when he is bedeviled  
mentally and physically.

Health recovered, says, may  
have been taken in admissible for  
the solar heat and the air is extremely  
forsaken by evaporation and the  
concourse of the sun's rays and warmth  
of the earth. - There was also  
all the time no rest and no effort of  
the body, he wrote to me in the letter a  
Munich August 15, he was not in a fit  
condition.

Now the disease, however,  
accompanies light, in phenomena  
which cannot be ascribed to mere

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that may in some manner modify the  
where it exists, but most especially it can  
produce them.

The effects of light did not  
escape the observing eye of Lavoisier. These  
"organisation, sensation, spontaneous motion  
"and all the operations of life only, exist  
"on the surface of the earth, and in places  
"exposed to the influence of light. -- If  
"out it, nature itself would be left up in  
"inanimate. -- By means of light the  
"benevolence of the Deity hath filled  
"surface of the earth with organisms  
"sensation and intelligence".

The effects of light on  
animal life are strongly demonstrated by  
its influence on the spirits. -- who  
not experienced its exhilarating effects on  
a clear sky and shining sun, or felt a dash  
of his spirits in proportion to the gloom  
of the circumambient atmosphere, and  
privations of this cheering cordial? It  
be reserved for him alone who has been

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deprived of light, and confined in deep  
dungeons to describe his deploring sit-  
uations, and this subject justice.

Life says Doctor Rush "is  
a more torpid state in those who have  
lost their sight and hearing, than in  
those who have not."

Since dreaming is as certain  
to be the consequence of mechanical  
processes on the body, may we not in  
that the frequent occurrence of dreams  
in the morning is owing to the ab-  
sence of light?

Having now concluded my  
observations on light, I wish each Profes-  
sor of this university to accept my  
evermost acknowledgments for the  
great opportunities of improvement  
I have enjoyed in their respects  
ches; and my sincerest wishes for  
their undimmed happiness.

Thos. Harris